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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,113	01/25/2005	Christophe Galopin	102790-123 (30053 US2)	1934
27389 7590 05/22/2009 NORRIS, MCLAUGHLIN & MARCUS 875 THIRD AVE 18TH FLOOR NEW YORK, NY 10022			EXAMINER DEES, NIKKI H	
			ART UNIT 1794	PAPER NUMBER
			MAIL DATE 05/22/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,113	<b>Applicant(s)</b> GALOPIN ET AL.	
	<b>Examiner</b> Nikki H. Dees	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 13, 2009, has been entered.

2. Claims 1, 2, 4-10 and 13 are currently pending in the application. Claims 3, 11, and 12 have been cancelled. The previous objections to claims 3, 4, and 10-12 have been withdrawn in view of Applicant's amendments to the claims 4 and 10 and the cancellation of claims 3, 11, and 12.

### ***Claim Objections***

3. The status identifier of claim 5 is incorrect. The status is indicated is previously presented. However, markings indicate that the claim is currently amended. The claim will be considered to be currently amended.

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamboa-Leon et al. (Gamboa-Leon, R., Chilton, W.S. 2000.

"Isobutylamide numbing agents of toothache grass, *Ctenium aromaticum*." Biochemical Systematics and Ecology. Vol. 28. pp. 1019-1021).

6. Gamboa-Leon et al. teach the compound N-(1-isobutyl)-2(E),4(E),8-decatrienamide (isoaffinin). This compound is similar to applicant's compound wherein R' is H, R''' and R'''' are methyl, n is 2, R'' is the group



with m=2 and R<sup>v</sup> is a methyl radical.

7. Gamboa-Leon state that the chemical shifts for the double bond at C8 overlapped, precluding the assignment of cis-trans.

8. Gamboa-Leon is silent as to the compound wherein R<sup>v</sup> is an ethyl radical when R' is H.

9. One of ordinary skill in the art at the time the invention was made, based on the teachings of Gamboa-Leon, would have found a compound differing by an additional –CH<sub>2</sub>– in the length of the carbon chain (undecatrieneamide) compared with the prior art

(decatrieneamide) obvious over the prior art. "Compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH<sub>2</sub>- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties." In re Wilder, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). See also In re May, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978) (stereoisomers prima facie obvious). In the instant case, there would have been a reasonable expectation that the additional -CH<sub>2</sub>- of the claimed compound would not significantly alter the properties of the prior art compound.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gamboa-Leon et al. in view of Fox et al. (Fox, M.A., Whitesell, J. 1994. Organic Chemistry. Jones and Bartlett Publishers. p. 79).

11. Gamboa-Leon et al. teach the isobutylamide N-(1-isobutyl)-2(E),4(E),8-decatrienamide as detailed above.

12. They are silent as to the compound containing an -OH group in the R' position.

13. Fox et al. teach that the substitution of an -OH for a -H of a hydrocarbon alters the boiling point and solubility of the compound.

14. The substitution of an -OH for an -H would be one that is readily apparent to one of ordinary skill in the art. As this change would alter the boiling point and water solubility of the compound, one of ordinary skill would make the substitution depending

on the final use of the compound. This change would be within the abilities of one of ordinary skill, and would not require undue experimentation. The resultant compound would be expected to have a slightly altered boiling point and water solubility, and thus be more suitable for particular applications

15. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamboa-Leon et al. in view of Hatasa et al. (3,720,762).

16. Gamboa-Leon et al. teach N-(1-isobutyl)-2(E),4(E),8-decatrienamide as detailed above. They further state that isobutylamides of unsaturated fatty acids occur widely in certain families of dicotyledonous plants and that isobutylamides are generally known to be pungent, numbing agents.

17. They are silent as to the use of isoaffinin in foods, beverages, or personal care products.

18. The '762 patent teaches spilanthol, another isobutylamide of an unsaturated fatty acid, in foods and oral care products including mouthwashes, gums, and breath fresheners. They further state that the spilanthol has a sharp flavor and a local anesthetic property. The spilanthol may be used alone or in combination with other flavorings (col. 1 lines 47-61). The amount of spilanthol used in the invention ranges from about 0.01 to 5.00 wt % (col. 2 lines 36-37).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used isoaffinin, an isobutyl amide of an unsaturated fatty acid, as taught by Gamboa-Leon et al. in the invention of the '762 patent. One of

ordinary skill would have had a reasonable expectation that the isoaffinin would have the same flavor and slight numbing properties as the spilanthol, another isobutylamide of an unsaturated fatty acid. Substitution of one compound for another would not require undue experimentation, and there would have been a reasonable expectation that the resultant foods, beverages and oral care products would maintain their favorable organoleptic properties.

### ***Response to Arguments***

20. Applicant's arguments filed March 13, 2009, have been fully considered but they are not persuasive.

21. In response to the 103 rejection of claims 1, 3, 4, 10 and 12 in view of Gamboa-Leon, Applicant argues that the skilled artisan concerned with a flavoring compound would not have found the instant compound obvious over the prior art, where the compound is taught as a numbing compound (Remarks, pp. 7-10)

22. In response, it is noted that the instant claims 1, 4, 10 and 12 are to a compound, not a method of using the compound, or any other method that requires the argued flavor properties of the compound. As outlined in the rejection supra, homologs of compounds, in this case only one additional –CH<sub>2</sub>– group, are generally considered obvious over similar compounds found in the prior art. As the compound N-(1-isobutyl)-2(E),4(E),8-decatrienamide is clearly taught in the prior art, Applicant's claims to N-(1-

Art Unit: 1794

isobutyl)-2(E),4(E),8-undecatrienamide are considered obvious over the teachings of the prior art.

23. Additionally, Applicant's specification notes that the compounds of the instant invention "possess interesting pungent odours and leave a pleasing tingling sensation in the mouth" [PGPub 0005]. One of ordinary skill would not consider these characteristics unobvious over the prior art where homologs of the instant invention are taught as numbing compounds.

24. Regarding the 103 rejection of claim 2 over Gamboa-Leon in view of Fox, Applicant argues as to the unpredictable nature of compounds as flavors and fragrances (Remarks, p. 11).

25. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the unpredictable nature of flavors and fragrances) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

26. The rejected claim 2 is to a compound wherein the indicated R group is OH. One of ordinary skill in organic chemistry at the time the invention was made, wishing to provide a compound wherein an -H was replaced by and -OH. The artisan would have been able to make this substitution based on the knowledge accorded to one of ordinary skill. Undue experimentation would not have been required, and while there would have



Art Unit: 1794

been an expectation that certain properties of the compound may change, these changes would have been expected and, therefore, obvious. As the compound is not claimed as a flavor or fragrance, those arguments are not addressed further.

27. Additionally, applicant has not provided any convincing arguments or evidence that the substitution of the -OH for the -H of the prior art provides any criticality to the claimed invention.

28. Regarding the 103 rejection of claims 5-9 over Gamboa-Leon in view of Hatasa, Applicant argues that due to the unpredictable nature of flavors and fragrances, it would not have been obvious to one of ordinary skill to utilize the isoaffinin as taught by Gamboa-Leon in place of the spilanthol as taught by Hatasa (Remarks, p. 14).

29. Both isoaffinin ((2E, 4E, 8Z)-N-isobutyldeca-2,4,8-trienamide) as taught by Gamboa-Leon, and spilanthol ((2E, 6Z, 8E)-N-isobutyldeca-2,6,8-trienamide) are known to be isobutyl amides of unsaturated fatty acids having pungent, numbing properties. As these compounds were both known in the art at the time the invention was made, the unpredictable nature that Applicant refers to is not considered to be applicable, and one of ordinary skill would have been able to use the compound as taught by Gamboa-Leon in the products as taught by Hatasa without undue experimentation, and with a reasonable expectation that the compositions would continue to be suitable for oral use.

30. Regarding the unpredictability of the prior art, the Examiner reiterates the fact that Applicant's claimed compound is a homolog of a compound known in the prior art. Additionally, the compounds of the prior art of both Hatasa and Gamboa-Leon are

Art Unit: 1794

known to have pungent, numbing properties. As these properties are the same as discussed with regard to the instant compounds in Applicant's specification, it is unclear what properties Applicant regards as unexpected.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikki H. Dees whose telephone number is (571) 270-3435. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST (second Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. H. D./  
Examiner, Art Unit 1794  
/Lien T Tran/  
Primary Examiner, Art Unit 1794

Nikki H. Dees  
Examiner  
Art Unit 1794